EXHIBIT 5

IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF SOUTH CAROLINA CHARLESTON DIVISION

Personal Representative of the Estate of David A. Priester, Jr.,) C/A No. 2:14-cv-01108-DCN)
Plaintiff,))
vs.)) AFFIDAVIT OF DARYL L.
Futuramic Tool & Engineering Company; Capital Welding, Inc.; McMaster-Carr	EBERSOLE, P.E.
Supply Company; Intec Automated	,)
Controls, Inc.; and SAR Automation, L.P.,	<i>)</i>
Defendants.))

- I, Daryl L. Ebersole, P.E. being first duly sworn according to law, do hereby depose and state the following statements are true and correct:
 - I am retained as an expert in the above-captioned matter by attorney for the Plaintiff,
 Kevin Dean, Esq., a partner in Motley Rice, LLC.
 - 2. At the request of Attorney Dean, I issued a report on December 22, 2015, regarding the fatal fall injury sustained by David Priester.
 - 3. I was deposed on the incident matter on February 19, 2016.
 - 4. Defendant Futuramic Tool & Engineering Company (Futuramic) and Defendant Capital Welding, Inc. (Capital) have filed Motions for partial and complete Summary Judgment respectively.
 - 5. I am employed as a professional engineer and consultant with Robson Forensic, Inc., and have been since 2003. I have conducted investigations as an associate of Robson

- Forensic Inc. since 2002. I am a licensed professional engineer in the state of South Carolina, 31 other states, and Washington, DC.
- 6. As reflected by my curriculum vitae, I have significant experience in machinery design, processor controlled equipment, equipment automation, software control, machinery standards, Human Machine Interfaces (HMIs), and project and construction management.
- 7. I have prepared this affidavit in response to Futuramic's and Capital's Memorandum in Support of said Motions for Summary Judgment. All of my opinions expressed in my report and in testimony remain unchanged; all of my opinions herein are stated within a reasonable degree of engineering certainty and are subject to change should additional information become available.
- 8. I have investigated the incident that resulted in the fatality of David Priester. On December 22, 2015 I completed a report regarding this incident.
- 9. The platform lift, known colloquially as "Cell 90", supplied by Futuramic/Capital Welding had software that was incomplete at the time of delivery to Boeing. The software that was delivered lacked logic for detecting communication failure that would result in motion failure of a slider.
- 10. "NOPs" or "No Operation" instructions, were used as placeholders during the development of the logic programs for the use on Cell 90. At the time of delivery by Futuramic/Capital Welding, there were at least 40 instances of "NOPs" within the software code. These NOPs represented incomplete branches in the software which were intended to be completed upon delivery to Boeing by the original programmer Intec.
- 11. As a result of the software not being completed, the ANSI A92.6 Self Propelled Elevating Work Platforms standard was not met at the time of delivery to Boeing. As stated in my

- report, this standard requires "4. Responsibilities of Manufacturers 4.13.2 Guardrail system. The platform shall include a guardrail system around its periphery..." The design relied on the positioning of the sliders to be extended such that the fuselage made up part of the guardrail system.
- 12. Futuramic/Capital Welding knew or should have known that the electrical design was begun by Matthews, that the electrical and software design was handed off to INTEC, and that software was then transferred to SAR. Futuramic/Capital Welding should have verified that a list of safety requirements including what was needed to comply with the ANSI A92.6 Self Propelled Elevating Work Platforms standard was met prior to transferring the platform lift to Boeing and before permitting the software to be sent to Boeing/SAR.
- 13. Futuramic/Capital Welding knew or should have known that the original software designer, INTEC, would need to either finish the software, or would need to provide assistance in order for the safety requirements to be successfully met.
- 14. As delivered to Boeing, and before any work by others, the software lacked communication verification logic and no alarm would occur as a result of the slider drive number 2 not responding.
- 15. INTEC/Futuramic knew or should have known that without proper commissioning to complete the design/manufacture of the product that the incomplete communication verification logic would not result in alarm activation when the slider number 2 drive failed to respond.
- 16. INTEC/Futuramic knew or should have known that without software completion and proper commissioning to complete the design/manufacture of the product that the logic

- delivered to Boeing would not stop the movement of all sliders in the event of a communication failure to the slider number 2 drive.
- 17. Boeing expected Futuramic to provide reliable, robust, safe computer logic. Boeing expected the system that was delivered to them to meet the ANSI A92.6 Self Propelled Elevating Work Platforms standard.
- 18. The Defendants' motion asserts that "Cell 90 Was Manufactured in Accordance with Boeing Specifications and Requirements and Accepted by Boeing." As identified in my report and stated previously, the work platform failed to meet that ANSI A92.6 Self Propelled Elevating Work Platforms standard. This was a specific requirement in the Boeing specifications. This assertion by the Defendant is incorrect. Futuramic/Capital Welding had a responsibility to deliver a self-propelled elevated work platform that would meet this standard and they failed to do so.
- 19. Futuramic, as the developer of the system, failed to adequately provide verification and validation in the development of the self-propelled elevated work platform. Futuramic should have managed the interfaces between INTEC and SAR, should have managed the responsibilities and authorities for design and development, and should have managed the validation and verification for providing a safe system. Their failures were violations of reasonable industry standards including ISO 9001:2008 Quality management systems Requirements 7 Product realization:
 - a. "7.3 Design and development 7.3.1 Design and development planning The organization shall plan and control the design and development of product. –
 During the design and development planning, the organization shall determine a) the design and development stages, b) the review, verification and validation that

are appropriate to each design and development stage, and c) the responsibilities and authorities for design and development. The organization shall manage the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility."

- 20. Futuramic/Capital Welding have also made reference to several conclusions I reached regarding SAR's role in programming Cell 90's software. See Defendants' Motion at pp. 22-24.
- 21. Based on these findings in my Rule 26 Report Futuramic/Capital Welding have claimed that "It was not foreseeable that a third-party would alter the Cell 90 programming as SAR did. It was certainly not foreseeable that a third-party would do so without even contacting, let alone consulting with, either Futuramic or Intec before making the changes." See Defendants' Brief at p. 23. Futuramic/Capital Welding's conclusion is inaccurate.
- 22. Futuramic/Capital Welding knew or should have known that, as delivered to Boeing, and before any work by others, Cell 90's software lacked communication verification logic and no alarm would occur as a result of the slider drive number 2 not responding. These gaps in the logic within the device rendered the design and manufacture of Cell 90 incomplete.
- 23. Futuramic/Capital Welding knew or should have known that the design and manufacture of Cell 90 was incomplete and that software completion and proper commissioning would be necessary to complete the design/manufacture process.
- 24. Futuramic/Capital Welding knew of, and facilitated, the transfer of the as-delivered, incomplete logic software to SAR so that modification and commissioning of Cell 90

could go forward, Futuramic/Capital Welding were aware of the transfer of this software to SAR and enabled the subsequent, foreseeable modifications of the logic by allowing that software to be entrusted to SAR <u>Docs.</u> FUTURAMIC 001623; FUTURAMIC 001628; and the 11/26/12 email from Scott Kruger of Intec to Nick Lashkarev and Michael Ellison of SAR, Ron Naz of Intec and Tom Blum of Futuramic.

- 25. Futuramic/Capital Welding also cite findings from my Rule 26 Report about the impact of SAR's programming, including that:
 - a. SAR Automation failed to complete communication loss detection and this was a cause of Mr. Priester's fatality;
 - b. SAR Automation introduced program changes for manual control and these changes were a cause of Mr. Priester's fatality; and
 - c. SAR Automation defeated the sensors for fuselage detection and left them defeated from early December, 2012 to the time of Mr. Priester's fatality on March 18, 2013 and this was a cause of Mr. Priester's fatality.

 See Rule 26 Report at p. 35.
- 26. As I noted in my report, each of the above-referenced findings regarding SAR indicates that SAR's activities were "a cause of Mr. Priester's fatality." I have not, as the Defendants' have suggested, "opined that *the* proximate cause of Plaintiff's accident is the alterations to Cell 90 made by Defendant SAR." See Defendants' Brief at p. 24 (emphasis added). While SAR's actions were a contributing cause to Mr. Priester's fatality, based on my review of the information in the file and education, training and experience, the actions and inactions of Futuramic/Capital Welding were also a contributing cause to the fatality. Futuramic/Capital Welding enabled SAR's foreseeable actions by (A) delivering an incompletely designed and manufactured produced (B) allowing the native logic software to be supplied to SAR without conditions or oversight necessary to ensure proper commission and completion of Cell 90 to is design intent.

Date Filed 08/18/16 Entry Number 82-5 2:14-cv-01108-DCN Page 8 of 8

27. Futuramic/Capital Welding delivered an incomplete product to Boeing as a result of the

failure to finalize and incorporate logic for detecting communication failure that would

result in motion failure of a slider, as Cell 90 deviated from its intended design and

function due to the lack of software for detecting communication failure that would result

in motion failure of a slider.

28. These failures by Futuramic/Capital Welding to effectively meet these industry standards

resulted in the delivery of a system with incomplete software and were a cause of Mr.

Priester's fatality.

29. The findings contained herein are based on my education, training and experience and my

review of the facts in this case, and are expressed to a reasonable degree of engineering

certainty.

FURTHER AFFIANT SAYETH NOT.

This the 15th day of August, 2016

L. Ehrele, P.E.

SUBSCRIBED AND SWORN BEFORE ME

this 15thday of August, 2016.

My commission expires: 3/28/17

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Nancy M. Helm, Notary Public City of Lancaster, Lancaster County

My Commission Expires March 28, 2017